

# Richmond Refinery LPS Alert – Reliability



## Cooling Water Piping Failure at Support Band



### IMPACT ERM:

Loss ID # 2818

**Location:** Hydro Division,  
North Isomax Cooling Tower

### Contact Information:

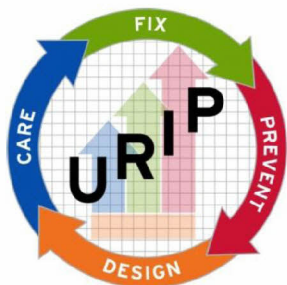
Steve Costa  
CTN 242-4285  
[swco@chevron.com](mailto:swco@chevron.com)



PS-CW7682 & 7683-30"-002  
(one year prior to pipe failure)

Failure location

### IIF – Recognize Risk



**IIF -- Every Task,  
The Right Way,  
Every Time**

### Incident Description:

On 10/12/2010 at 2:30pm, the cooling water flow was interrupted to the NISO plants. The 30-inch cooling tower supply header in common service for several plants failed at a suspended band-type pipe support (pictured below to the left). Several units were shut down and others operated at reduced rates until the repairs to the header could be completed two days later. This resulted in a Reliability Clock Reset.

### Immediate Actions Taken:

Operators made notifications and took necessary steps to reduce feed in a safe and controlled manner. This included shutting down the TKC and TKN, and reducing the rates at the H2 Trains, SDA, RLOP, and some D&R plants.

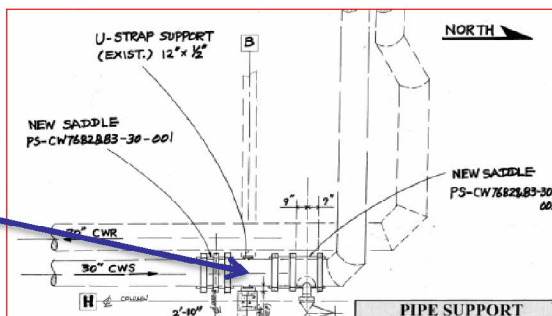
Maintenance crews responded immediately to complete mechanical repairs within 48 hours and provided startup support for the North Isomax plants.

An investigation of the 30-inch cooling water header failure is in progress.

### Background and Immediate Recommendation:

Piping drips at the existing supports for the 30-inch cooling water supply and return headers (PS-CW7682 & 7683 -30-002) were recognized a year earlier and a permanent repair designed in March was scheduled to occur during October.

Evaluate thoroughly and address any failing suspended band-type pipe supports (shown left) to determine when and how such issues will be repaired, since a failure could be imminent in certain situations.



## LOSS PREVENTION SELF-ASSESSMENT

**BEFORE BEGINNING ANY ACTIVITY/TASK/JOB, AFTER A LOSS OR NEAR LOSS, ANY UNUSUAL CIRCUMSTANCES:**



### ASSESS the risk!

What could go wrong?  
What is the worst thing that could happen if something does go wrong?

### ANALYZE how to reduce the risk!

Do I have all the necessary Training and Knowledge to do this job properly?  
Do I have all the proper Tools and Personal Protective Equipment?

### ACT to ensure loss-free operations!

Take necessary Action to ensure the job is done properly!  
Follow written procedures! Ask for assistance, if needed!

**DO NOT PROCEED UNLESS ALL RISKS HAVE BEEN ADDRESSED!**

**For Everyone • Every Day • All the Time**

This document is intended for company workforce only. Nothing herein should be construed as a legal determination of causation or responsibility. The company makes no representations or warranties, express or implied, about the thoroughness, accuracy, or suitability of use by others of any of the information contained herein.